

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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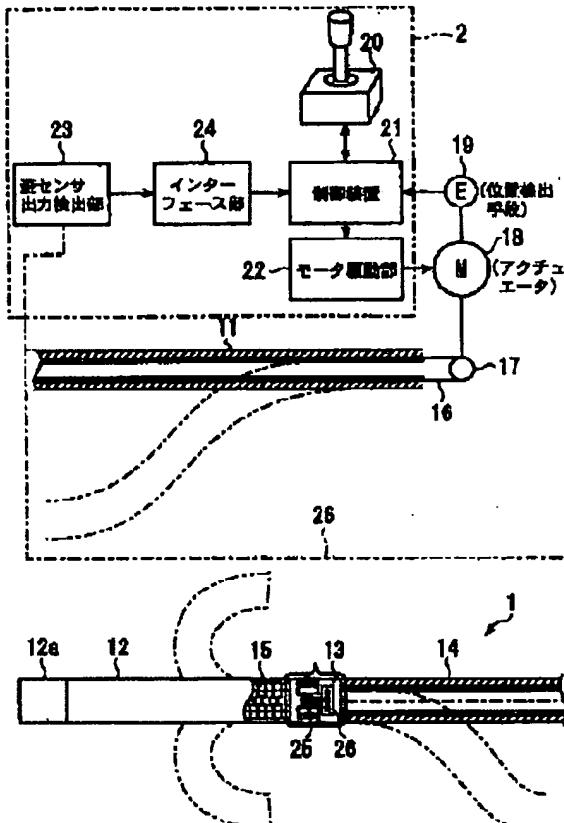
APPLICATION DATE : 22-09-00  
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APPLICANT : OLYMPUS OPTICAL CO LTD;

INVENTOR : KANEKO SHINJI;

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TITLE : ELECTRIC BENDING TYPE  
 ENDOSCOPE



**ABSTRACT :** PROBLEM TO BE SOLVED: To provide an electric bending type endoscope which has no risk that a lead wire is disconnected or short-circuited during assembling or bending operation.

**SOLUTION:** The electric bending type endoscope is provided with an insertion part 1 having a bendable tube portion 12, angle wires 16 which manipulate the bendable tube portion 12, a joy stick switch 20 which gives a bending mechanism a position order value, an electric motor 18 which tows angle wires 16 and actuates the bending mechanism, a rotary encoder 19 which detects towed positional data of the angle wires 16 towed by the electric motor 18, a distortion gauge 25 mounted on the bending mechanism and its adjoining vicinity, a distortion sensor output detecting part 23 which detects output power of the distortion gauge 25, a lead wire 26 which transmits the output power of the distortion gauge 25 to the sensor output detecting part 23, and a control unit 21 which makes towed position control of the angle wires 16 towed by the electric wires 18 on the basis of data of the position order value, data of the towed position, and an output data of the distortion sensor output detecting part 23, and an electrical wiring pattern is installed which makes continuity between the distortion gauge 25 and the lead wire 26.

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